Cannabinoid Exposure in Infants and Young Children

Thomas Klosowski, PharmD Candidate, SIUE School of Pharmacy
Theresa Matoushek, PharmD, CSPI, Missouri Poison Center

Introduction
• Cannabinoids are agents that act as agonists to endocannabinoid receptors and have a variety of therapeutic and recreational applications.
• Legalization in other states has led to increased unintentional exposures in pediatric patients.
• Despite its rise in prevalence, data in this population is scarce.

Objective:
• Analyze the prevalence, methods, and outcomes associated with single-substance cannabinoid exposures in neonates, infants, and young children that were reported to a poison center in the past 10 years to assist future outreach efforts.

Methods
The National Poison Center Data System was searched for single-substance bupropion exposures that were reported to the Missouri Poison Center between January 1, 2012, and December 31, 2021 in patients 0 to 5 years old.

Inclusion Criteria:
• Confirmed exposure
• Single substance cannabinoid exposure

Results
• 341 cases met search criteria; 1 case was excluded due to confirmed non-exposure.
• Patient population is 51.8% male (176) with a median age of 2 years old (1-3).
• 97.6% of cases were unintentional (332).
• 87.9% of cases were caused by ingestion (299).

Figure 1: Frequency of calls received by the Poison Center for single-substance cannabinoid exposure per year (n=340)
Figure 2: Number of calls made to the Poison Center per MO county (n=280)

Clinical Effect

<table>
<thead>
<tr>
<th>Effect</th>
<th>All Outcomes (n=340)</th>
<th>Minor Effect (n=49)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNS depression (mild)</td>
<td>101 (29.7%)</td>
<td>11 (22.4%)</td>
</tr>
<tr>
<td>CNS depression (mod)</td>
<td>37 (10.9%)</td>
<td>31 (63.3%)</td>
</tr>
<tr>
<td>Other - neurologic</td>
<td>24 (7.1%)</td>
<td>7 (14.3%)</td>
</tr>
<tr>
<td>Ataxia</td>
<td>21 (6.2%)</td>
<td>5 (10.2%)</td>
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<tr>
<td>Drowsiness/Lethargy</td>
<td>20 (5.9%)</td>
<td>3 (6.1%)</td>
</tr>
<tr>
<td>Tachycardia</td>
<td>20 (5.9%)</td>
<td>9 (18.4%)</td>
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<tr>
<td>Vomiting</td>
<td>18 (5.3%)</td>
<td>4 (8.2%)</td>
</tr>
<tr>
<td>Agitation</td>
<td>11 (3.2%)</td>
<td>5 (10.2%)</td>
</tr>
<tr>
<td>Respiratory depression</td>
<td>8 (2.4%)</td>
<td>7 (14.3%)</td>
</tr>
<tr>
<td>Mydriasis</td>
<td>7 (2.1%)</td>
<td>6 (12.2%)</td>
</tr>
</tbody>
</table>

Table 1: Comparison of clinical effects related to exposure between study population and a subgroup of severe clinical outcomes

Limitations
• 2022 data is not included in this analysis
• Limited sample size in subgroup analysis
• County prevalence analysis subject to density bias
• No definite hypothesis testing
• Poison Center data collection performed in a realistic practice environment

Conclusion
• Data collected shows need for future education efforts as well as ways to implement these efforts
• Changing culture regarding cannabinoid use will affect all pharmacists, meaning continuing our own educations will prove vital in these upcoming years